and less substantial, for the labor needed to raise the pyramids, prepare their facings, and fit them with religious sculpture and fresco painting placed heavy enough demands upon a people living essentially at the neolithic level. Thus, other types of monumental buildings were few.

Religion included control over time as well as support of the gods. Time was not only the change of the seasons, but it was also the past and the future in a predictable pattern of cyclical duplication. A ritual calendar called Tonalpohualli, "sun calendar," was 260 days long and was complemented by a secular calendar 365 days long, divided into 18 months of 20 days each and 5 intercalated extra or, "dead," days (*Nemontemi*). At fifty-two-year intervals these two calendars coincided, ending the old and beginning the new together. Each new fifty-two-year cycle was inaugurated with great pomp and religious rites, called the New Fire Ceremony, to celebrate the fact that the world had begun again. The New Fire was kindled by a wooden drill on a fireboard like the one in a detail from the pre-Conquest manuscript Codex Nuttall (plate 1), showing the feathered drill, the board with its holes, and a sign for smoke and flame. To mark the end of the old epoch, pottery was ritually destroyed and fires extinguished to be relit during the New Fire Ceremony. Temples and pyramids were probably rebuilt each fifty-two years to celebrate the cyclical renewal of the world.[13]

The calendar of the Aztecs can be considered a less elaborate form of the Maya one, the complexity of which is unique in the New World. To the Maya, the counting of time and the passage of the years were in themselves priestly and divine activities. In the cosmic order of the universe the gods in sequence picked up the burden of time from their predecessors who relinquished it. Carved stone stele with detailed records of dates marked the passage of time among the Maya (plate 72). Set in large plazas before temples, they were essentially markers of architectural space. So closely did they adhere to their architectural role that they were, in the strict sense of the phrase, architectural sculpture rather than mere sculptural monuments (plate 69).

Despite the common religious and calendrical traits, however, the Mixteca-Puebla culture was not composed of people conforming to a rigid ecumenical system. Regional variations existed, so that the religion of the Aztecs was not completely identical with that of their subject peoples. Painting and sculpture, as well as architecture, show local variations on basic

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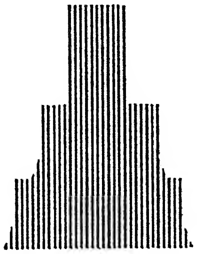

PRE-COLUMBIAN ARCHITECTURE

by Donald Robertson

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To my dear friend and late colleague,
Alice Parkerson

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1 PROLEGOMENON

In November of 1519 Cortés crossed the high eastern passes between snow-capped volcanoes and descended into the central Valley of Mexico, finally reaching Tenochtitlán, capital of Montezuma and principal seat of the Aztecs.[1] His amazement and that of his followers at what they saw is preserved for us in the almost laconic sixteenth-century accounts of that fabulous city. Rising on an island in Lake Texcoco, linked to the mainland by great causeways, Tenochtitlán was dominated by towerlike pyramids crowned with gleaming temples, blackened inside with the smoke of copal incense and reeking with the smell of burning human hearts sacrificed to the hungry gods. Groups of monumental buildings integrated with architectural sculpture and dramatized with fresco paintings rose from plazas connected by streets broad and straight, aqueducts, canals, and bridges. The plazas, which served to punctuate focal points, were part of the regular gridiron plan of the city.[2] In the heart of the capital were palaces surrounding spacious courtyards and carefully cultivated gardens, ball courts, markets, private houses, and the many other elements one finds in a modern metropolis. There was even an aviary and a zoo for wild animals.[3] Indeed, Tenochtitlán was closer to our idea of a well-designed city than any in the Spain of the conquistadors. As Cortés and his men approached the capital, it must have floated before their eyes like an enchantment from *Amadis of Gaul* or some other popular Spanish romance of chivalry.[4] (See plates 13, 14.)

No city in Spain and few anywhere in all Europe could have compared with what the Spaniards actually saw in the orderly pattern of its plan, in its cleanliness, in the wealth it drew from its tributary provinces, or even in the number of its people.[5] During the Conquest of Mexico all was destroyed, all swept away with such thoroughness that now little remains of Tenochtitlán, the site of present-day Mexico City,[6] except some few pieces of architectural sculpture, the lower stages of the main pyramids, and the written accounts of Cortés, Bernal Díaz del Castillo, and the Anonymous Conqueror.[7] Colonial buildings cover the site of the great temple, and the National Palace replaces the Palace of Montezuma (plate 15).

Cortés overthrew the Triple Alliance of the Culhua Mexica, although he is often given credit for destroying the empire of Montezuma.[8] There was no such thing; Montezuma was the ruler of México-Tenochtitlán and head of only one member of a Triple Alliance including Texcoco, the cultural center across the Lake of Texcoco from Montezuma's capital, and Tlacopan, present-day Tacuba, a minor subdivision of Mexico City. The domains of the Triple Alliance included most of central and southern Mexico; they surrounded Tlaxcala, an independent enclave, and bordered the lands of the Tarascans to the west of México-Tenochtitlán.[9] Outside the orbit of the Aztecs and their dominions lay the lands of the Maya to the east in the peninsula of Yucatán extending into present-day Honduras, British Honduras, and Guatemala. The Maya were the makers and bearers of a related but more sophisticated culture in Middle America. Because of the many traits separating them from the peoples to the west, it is more convenient to talk of "Mexican" in contrast to "Maya" civilization.

The civilizations of the Andean region are so distinct from the cultures of central and southern Mexico that we shall find it more meaningful to treat them quite apart from both the Mexican and Maya traditions. One can compare these cultural differences to the linguistic divisions of Europe: the Mexican and Maya are different to the extent that Spanish is different from Italian. Like the Romance languages they are related, and thus make a telling contrast when we compare them to those of the Andean civilizations—a comparison of the order of magnitude of German compared with Italian or Spanish.

The Aztecs shared with most of the people under their power in central and southern Mexico a way of life and a particular kind of civilization that George C. Vaillant has called the "Mixteca-Puebla Culture."[10] The common denominators of this late pre-Conquest period were religion, calendar, and technological and artistic styles which were either identical among these people or minor variations upon fundamentally similar themes. Like all the peoples of Middle America, they had corn as the abiding staple of life; like all agricultural peoples, they had a powerful interest in the forces of nature—rain and sun which could guarantee good crops.

These forces of nature quite naturally appear in the religious aspect of Middle American life.[11] Tlaloc in his several guises presided over rain; tender young corn was personified by

Xilónen, and a more general maize or corn god by Cinteotl. Tonatiuh, the Sun, was one of the paramount gods, and worshiped with human sacrifice. Gods were also personifications of human activities. Thus, Tlazoltéotl was goddess of filth and carnal love (a provocative juxtaposition to be sure); Huitzilopochtli (Humming Bird of the Left) was the tribal god of the Aztecs and a powerful war god; Tezcatlipoca, called Smoking Mirror, the god of fortune and chance, was known in several guises—among them the Black Tezcatlipoca of the North. Quetzalcoatl (the White Tezcatlipoca of the East, the Feathered Serpent), was a god of wisdom and learning; he was associated with the planet Venus and also known as Ehécatl, God of the Winds to whom round temples were built.[12] As one of the aspects of Tezcatlipoca, Quetzalcoatl joined Huitzilopochtli, the Blue Tezcatlipoca of the South. The Red Tezcatlipoca of the West was Xipe-Tótec, a vegetation and fertility god. To the Mixteca-Puebla culture, as to classical antiquity in Europe, this complexity and even confusing shifting of attributes was accepted as part of the nature of the divine. Tezcatlipoca with his four colors and four directional associations represented a fourfold division of the universe. Quetzalcoatl and his twin, a hunting god Xolotl, the monster, suggest the cosmos as duality—a duality expressed by Ometecuhtli and his wife Omecihuatl, the first couple, the creator gods.

These two ways of conceiving of the universe are reflected in Aztec architecture. The city plan of México-Tenochtitlán, for instance, is divided into four parts by four avenues meeting in the main plaza, the religious heart of the city (plates 13 and 15). The duality of nature is also reflected in the representative Aztec pyramid on which two temples stand side by side (plate 29). México-Tenochtitlán, one was dedicated to Huitzilopochtli, the war god, the other to Tlaloc, the rain god. They thus represented war, a human activity, and rain, a natural phenomenon, both essential to the survival of the people.

As intermediaries between the people and the all-important gods, the priesthood played a major role in the life of the state. Since religion and secular affairs were not divisible, Montezuma was head of both church and state. The resources of the society in both its aspects were marshaled in support of religious architecture. The temple on its pyramid, even more than the church in the Christian world, was the focus of the architectural activities of the people. Secular buildings were relatively less important